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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,930

Applicant(s)

STOYANOV ET AL.

Examiner

Dennis Cordray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,5-7, 9-12, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al (6340411) in view of Cook et al (5562740).

Hansen et al discloses a crosslinked cellulosic product comprising cellulose fibers, α -hydroxy polycarboxylic acid species of citric or tartaric acid (col 4, lines 32-45 and 56) and a polyol species of sorbitol, (col 59, lines 29-30). The disclosure teaches that both α -hydroxy polycarboxylic acids and polyols can cause intrafiber crosslinking (col 34, lines 4-6, 20-28). The polyol can be present in an amount from 1% to 80 % by weight of the fibrous material (col 6, lines 8-10). Examples are given of the fibrous product with a wet bulk of 16.1 and 19.4 cc/g (col 41, lines 49-50).

Hansen does not teach a brightness greater than 69 or greater than 79 % ISO.

Cook et al discloses individualized polycarboxylic acid crosslinked fibers with a brightness of 86 as having a better aesthetic appeal to customers (col 3, lines 8-12, 51-52).

The art of Hansen et al, Cook et al and the claimed invention are analogous because they are from the same science of providing water absorbent crosslinked fibers. It would have been obvious at the time the invention was made to a person with

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ordinary skill in the art to obtain the claimed brightness criterion in the process of Hansen in view of Cooks disclosed values to make the crosslinked fibers appealing to customers.

3. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al (6340411) in view of Cook et al (5562740) and further in view of Hatsuda et al (6562879).

Hansen et al and Cook et al do not teach that the fibers have an "L" value greater than about 94.5, or an "a" value between about -1.55 and -0.60, or a "b" value less than about 8.50.

Hatsuda et al discloses a structure containing a water-absorbent crosslinked polymer resin powder with color scale values "L" (lightness scale), "a" (red-green scale) and "b" (yellow-blue scale) as reproduced below (col 16, lines 6-12).

The arbitrarily pulverized water-absorbent resin powder, according to the present invention, further has an L value of preferably not lower than 85 in lightness (lightness index), and an a value preferably in the range of +-2 and a b value preferably in the range of 0~9 both in chromaticity (chromaticness index), as measured with a device such as a spectroscopic color difference meter.

Hatsuda et al teaches that color out of the specified range is not favorable to customers (col 16, lines 13-19).

The art of Hansen et al, Cook et al and Hatsuda et al and the claimed invention are analogous because they are from the same science of providing water absorbent crosslinked polymers. It would have been obvious at the time the invention was made to a person with ordinary skill in the art to obtain the criterion for "L", "a", and "b" in the

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process of Hansen et al in view of Cook et al and further in view of Hatsuda et al to make the crosslinked fibers aesthetically favorable to customers.

4. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al (6340411) in view of Cook et al (5562740) and further in view of Jewell et al (US Patent Publication 2003/0205342).

Hansen et al and Cook et al do not teach the use of malic acid as a crosslinking agent.

Jewell et al claims the use of citric acid, tartaric acid and/or malic acid as crosslinking agents (Claim 3) for crosslinking cellulosic fibers. Jewell et al further teaches that citric acid, tartaric acid and/or malic acid are three out of a variety of crosslinking agents known in the art (paragraph 24).

The art of Hansen et al, Cook et al, Jewell et al and the claimed invention are analogous because they are from the same science of providing chemically crosslinked fibers. It would have been obvious at the time the invention was made to a person with ordinary skill in the art to use the claimed crosslinking agents in the process of Hansen et al in view of Cook et al and further in view of Jewell et al.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 5-8 and 10-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over (renumbered) claims 1-9 and 11-12 of copending Application No. 10/748977. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed fibers in the instant invention are obvious by the method claimed in the copending application (i.e.-by following the method in the copending application, a person with ordinary skill in the art would expect to make the fibers claimed above. Conversely, a person with ordinary skill in the art would not expect to make the same claimed fibers using a different method than that in the conflicting application).

- Claim 1 of the instant application is obvious in view of Claims 1, 7-9 and 11-12 of the copending application for the reasons given above. Claim 1 of the copending application does not specify C₄-C₁₂ polyols. Referenced Claims 7-9 and 11-12 above cite specific polyols in the C₄-C₁₂ range.
- Claim 5 of the instant application reads the same as Claim 2 of the copending application if the word "method" is replaced by the word "fibers".
- Claim 6 of the instant application reads the same as Claim 3 of the copending application if the word "method" is replaced by the word "fibers", the words "α-hydroxy polycarboxylic" are inserted before the word "crosslinking", and the

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referenced Claim "2" is replaced by "5". The species listed in each claim are the same α -hydroxy polycarboxylic species.

- Claim 7 of the instant application reads the same as (renumbered) Claim 4 of the copending application if the word "method" is replaced by the word "fibers" and the referenced Claim "3" is replaced by "6".
- Claim 8 of the instant application reads the same as (renumbered) Claim 5 of the copending application if the word "method" is replaced by the word "fibers" and the referenced Claim "3" is replaced by "6".
- Claim 10 of the instant application reads the same as (renumbered) Claim 6 of the copending application if the word "method" is replaced by the word "fibers".
- Claim 11 of the instant application reads the same as (renumbered) Claim 7 of the copending application if the word "method" is replaced by the word "fibers" and the referenced (renumbered) Claim "6" is replaced by "10".
- Claim 12 of the instant application reads the same as (renumbered) Claim 8 of the copending application if the word "method" is replaced by the word "fibers" and the referenced (renumbered) Claim "7" is replaced by "11".
- Claim 13 of the instant application reads the same as (renumbered) Claim 9 of the copending application if the word "method" is replaced by the word "fibers" and the referenced Claim "6" is replaced by "10".
- Claim 14 of the instant application reads the same as (renumbered) Claim 11 of the copending application if the word "method" is replaced by the word "fibers" and the referenced Claim "6" is replaced by "10".

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- Claim 15 of the instant application reads the same as (renumbered) Claim 12 of the copending application if the word “method” is replaced by the word “fibers” and using the renumbered referenced Claim “10”.

This is a provisional obviousness- type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1, 5-8, 10-12 and 16-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 and 12-13 of copending Application No. 10/815206.

- Claim 1 of the instant application is obvious in view of Claims 1 and 12 of the copending application. Claim 1 of the copending application does not specify a Whiteness Index. The instant application does not exclude the use of bleached fibers or of bleaching the fibers. The composition of the fibers in the copending application is the same as that in the instant application, and the properties (i.e.- Whiteness) of both products are expected to be similar
- Claim 5 of the instant application reads the same as Claim 2 of the copending application.
- Claim 6 of the instant application reads the same as Claim 3 of the copending application except that the claimed species are in a different order and if the referenced Claim “2” is replaced by “5”.
- Claim 7 of the instant application reads the same as Claim 4 of the copending application if the referenced Claim “3” is replaced by “6”.

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- Claim 8 of the instant application reads the same as Claim 5 of the copending application if the referenced Claim “3” is replaced by “6”.
- Claim 10 of the instant application reads the same as Claim 6 of the copending application.
- Claim 11 of the instant application reads the same as Claim 7 of the copending application if the referenced Claim “6” is replaced by “10”.
- Claim 12 of the instant application reads the same as Claim 8 of the copending application if the referenced Claim “7” is replaced by “11”.
- Claim 16 of the instant application specifies substantially the same brightness range as Claim 12 in the copending application.
- Claim 17 of the instant application specifies substantially the same wet bulk range as Claim 13 in the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-8, 10, and 12-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10/748969. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed fibers in the instant invention are included as a species of the invention claimed in the copending application.

- Claim 1 of the instant application is an obvious species of the product of Claim 1 of the copending application.

- Claim 2 of the instant application reads substantially the same as Claim 2 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 3 of the instant application reads substantially the same as Claim 3 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 4 of the instant application reads substantially the same as Claim 4 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 5 of the instant application reads the same as Claim 5 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 6 of the instant application reads substantially the same as Claim 6 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 7 of the instant application reads the same as Claim 8 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 8 of the instant application reads the same as Claim 7 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 10 of the instant application reads the same as Claim 9 of the copending application if the words “absorbent product” is replaced by the word “fibers”.
- Claim 12 of the instant application reads the same as Claim 10 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 13 of the instant application reads the same as Claim 11 of the copending application if the word “product” is replaced by the word “fibers”.
- Claim 14 of the instant application reads the same as Claim 12 of the copending application if the word “product” is replaced by the word “fibers”.

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- Claim 15 of the instant application reads the same as Claim 13 of the copending application if the word "product" is replaced by the word "fibers".
- Claim 16 of the instant application specifies a brightness similar to that of Claim 14 of the copending application.

Response to Arguments

Applicants' arguments filed 22 November, 2005 have been fully considered but they are not persuasive. The reasons are as follows:

Rejection of Claims Under 35 U.S.C. §103(a)

Regarding the rejection of claims 1, 5-7, 9-12 and 16-19, applicants have argued that the Hansen reference teaches away from using a polyol during the curing step because that would result in a loss of effectiveness of the binder. Hansen states that polyols and polycarboxylic acids will function as crosslinking material and that they can be used together to form covalent crosslinking bonds (col 34, lines 3-10). The polycarboxylic acids and polyols disclosed by Hanson et al, when added to the fibers, are capable of functioning as crosslinking agents because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent. thus the instant invention is anticipated.

The Cook reference does not teach using polycarboxylic acids and polyols during the crosslinking reaction. However, Cook et al does disclose individualized polycarboxylic acid crosslinked fibers with a brightness of 86 as having a better aesthetic appeal to customers (col 3, lines 8-12, 51-52). It is well known that some crosslinking agents (i.e.-citric acid) can result in discoloration in the crosslinked product and that such discoloration is undesirable, thus it is obvious to seek crosslinking agents that do not result in the problem. Since both references and the instant invention deal with crosslinked fibers, they are analogous art and it would be obvious to one of reasonable skill in the art to obtain the brightness claimed in the instant invention.

Regarding rejection of claims 2-4, applicants have argued that Hatsuda et al is not analogous art. Hansen et al, Cook et al, Hatsuda et al, and the instant invention all deal with crosslinked absorbent polymeric materials. Cook et al, Hatsuda et al and the instant invention deal with the appearance (color, whiteness or brightness) . Cook et al teaches that higher brightness is aesthetically appealing to customers (col 3, lines 8-12). Hatsuda et al discloses an absorbent structure containing the crosslinked pulverized water-absorbent resin powder and cellulosic fibers and teaches that "In the case where the L-, a-, or b value deviates from the above range, brown coloring tends to be seen on the surface of the water-absorbent resin powder, particularly, when the water-absorbent resin concentration (weight %) in the absorbent structure is high, particles of the water-absorbent resin might be seen in the form of yellowed spots in the absorbent structure, so such a case is not favorable to consumers." (col 16, lines 12-19). Since Hansen et al, Cook et al, Hatsuda et al, and the instant invention all deal

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with crosslinked absorbent polymeric materials, and since Cook et al, Hatsuda et al and the instant application deal with solving the same problems, that of providing more favorable color properties to the absorbent products, they are all analogous art.

Furthermore, Hatsuda et al also discloses that the crosslinking reaction system can contain cellulosic fibers, polyacrylic acids (polycarboxylic acids) and polyhydric alcohols (col 7, lines 32-37; col 10, lines 44-48; col 11, lines 31-33), thus reinforcing the case for analogous art.

Regarding rejection of claims 7-9, applicants have argued that the Jewell reference does not disclose the use of a crosslinking agent and a polyol or the treatment of color properties of the crosslinked fibers. Jewell et al was used only to teach that citric acid, tartaric acid and malic acid are known crosslinking agents for cellulosic fibers (p 2, par 24). Combining Hansen et al, Cook et al and Jewell et al would be obvious to one skilled in the art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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